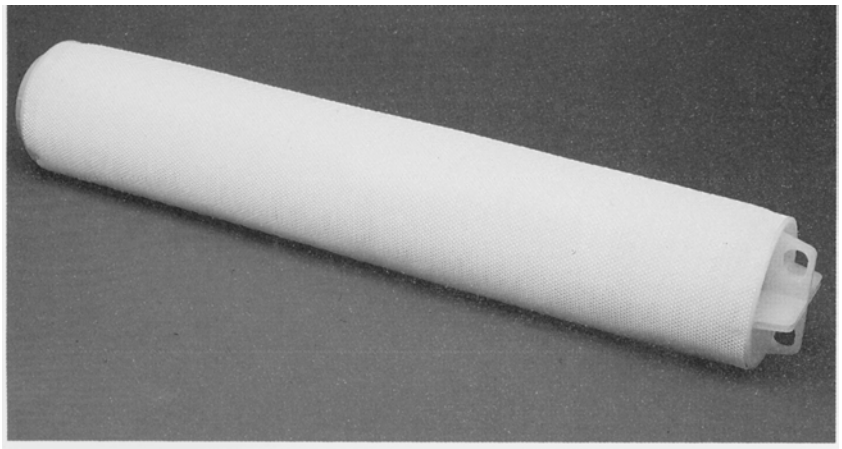
# High Flow Filter Cartridges
## Series 740B30

*Creative Answers Shaping Cleaner Environments*

**Technical Data**



## Features, Advantages and Benefits

The 3M™ High Flow Filter Cartridge 740B30, which incorporates the patented radial pleat, puts an extraordinary amount of surface area into a single cartridge. This results in the following:

- High loading capacity for long life and lower cost filtration.
- Fewer cartridges for fewer change-outs and lower labor cost.
- Fewer seals, reduced risk of bypass resulting in high quality filtration .
- Extremely low disposal costs, less than a tenth of some cartridges.

Double O-ring seals in a variety of material options means:

- Extremely low risk of bypass for high quality fluids.
- No loose parts to assemble for easy installation, thus less labor cost.
- Also, no springs and caps to lose reduces the risk of bypass.
- Broad chemical compatibility for many applications.
- Convenient handle for easy manual or mechanical removal.

## Materials of Construction

### Filter Media:

Meltblown polypropylene microfiber filter media provides high particle removal efficiency for high quality filtration with broad chemical compatibility.

No silicone is intentionally used in materials of construction or in manufacturing.

The raw materials composing these filters are FDA compliant according to CFR Title 21.

### O-rings:

| Product Number | Material |
|---|---|
| 7010 | FDA Buna N (standard) |
| 7011 | Ethylene Propylene Rubber |
| 7012 | PTFE encapsulated Silicone |
| 7013 | FDA Silicone |
| 7014 | Fluoroelastomer |

## Applications

**Prefilters or final filters for:**

- Acids and bases
- Amines
- Carbon beds
- Completion fluids
- Deep wells
- Desalination
- DI resins
- EDM fluids
- Glycol
- Groundwater clean-up
- Laundry water
- Machine coolants
- Magnetic media
- Makeup water
- Organic solvents
- Photo chemicals
- Plating solutions
- RO membranes
- Storm water
- UF membranes
- Wastewater
- Waterflood
- Workover fluids

Downloaded from www.Manualslib.com manuals search engine

# Performance Data

## Loading Capacity

| Product Number | 742B | 743B | 744B | 745B | 746B | 747B | 748B | 749B |
|---|---|---|---|---|---|---|---|---|
| Pounds at 30 gpm | 8.9 | 13.4 | 13.3 | 13.3 | 13.7 | 16.1 | 17.3 | 17.5 |
| Kilograms at 7 cu m/hr | 4.0 | 6.1 | 6.0 | 6.0 | 6.2 | 7.3 | 7.8 | 7.9 |

***Loading:*** *The data above shows typical loading capacities of the different micron rated filters. Loading capacity is determined by challenging a filter with a dispersion of silica test dust in water at the recommended flow rate. Pressure drop is monitored and testing is terminated at 50 psid (3.4 bar). (742B is terminated at 35 psid– 2.4 bar.) The loading capacity reported is the dry weight gain of the cartridge.*

## Particle Removal Efficiency (microns)

| Product Number | 742B | 743B | 744B | 745B | 746B | 747B | 748B | 749B |
|---|---|---|---|---|---|---|---|---|
| Efficiency @ 99% | 1 | 2 | 5 | 10 | 15 | 25 | 40 | 70 |
| Efficiency @ 95% | 0.9 | 1.1 | 2.5 | 8 | 9 | 13 | 24 | 43 |
| Efficiency @ 90% | 0.8 | 0.9 | 1.7 | 6 | 8 | 10 | 19 | 35 |
| Efficiency @ 75% | <0.7 | 0.7 | 1.5 | 3.5 | 6 | 8 | 13 | 24 |
| Efficiency @ 50% | <0.7 | <0.7 | 1.1 | 1.5 | 4.0 | 4.5 | 8 | 14 |

***Efficiency:*** *The 3M™ High Flow Filter Cartridges are rated using a silica test challenge in water at 30 gpm (6.8 cu m/hr). The results reported are typical initial efficiencies taken within ten minutes of the start of the test. For more information on how 3M conducts its filter efficiency testing, please contact Filtration Products Technical Service at 1-800-648-3550 .*

## Clean Pressure Drop Versus Flow Rate (psid)

| Product Number | 742B | 743B | 744B | 745B | 746B | 747B | 748B | 749B |
|---|---|---|---|---|---|---|---|---|
| Δp @ 10 gpm | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.05 | 0.05 | 0.04 |
| Δp @ 20 gpm | 0.7 | 0.5 | 0.2 | 0.2 | 0.1 | 0.11 | 0.10 | 0.08 |
| Δp @ 30 gpm | 1.0 | 0.9 | 0.4 | 0.3 | 0.2 | 0.21 | 0.18 | 0.15 |
| Δp @ 40 gpm | 1.3 | 1.1 | 0.6 | 0.4 | 0.4 | 0.30 | 0.25 | 0.20 |

***Pressure Drop:*** *The 3M High Flow Filter Cartridges have low initial pressure drop (Δp) in water as the chart indicates. The chart does not include the pressure drop of the vessel.*

# Product Specifications

## Micron Ratings:

| Product Number | Initial Efficiency |
|---|---|
| 742B30 | 1 micron @ 99% |
| 743B30 | 2 micron @ 99% |
| 744B30 | 5 micron @ 99% |
| 745B30 | 10 micron @ 99% |
| 746B30 | 15 micron @ 99% |
| 747B30 | 25 micron @ 99% |
| 748B30 | 40 micron @ 99% |
| 749B30 | 70 micron @ 99% |

## Dimensions (Nominal):

**Outer Diameter:**
6.5 inches 16.5 cm

**Inside Diameter:**
1.6 inches 4 cm

**Length:**
28.75 inches 73.0 cm

**226 O-ring Inside Diameter:**
2 inches 5 cm

**226 O-ring Thickness:**
0.14 inches 0.35 cm

## Operating Condition:

**Maximum Operating Temperature:**
160F 70C

**Recommended Flow:** (in water)
30 gpm 6.8 cu m/hr

**Suggested Maximum Flow:** (in water)
742B30-743B30 – 45 gpm 10 cu m/hr
744B30-749B30 – 60 gpm 14 cu m/hr

**Suggested Maximum Differential Pressure:**
742B30 35 psid 2.4 bar
743B30 - 749B30 50 psid 3.4 bar

**Disposal of used filters must comply with applicable federal, state and local laws and regulations.**

## Order Information

To order contact your local 3M Filtration Products distributor or call toll free 1-800-648-3550.

**IMPORTANT NOTICE:** The information in this literature is based on tests 3M believes are reliable. It is not and should not be relied on as a product or technical specification. 3M does not guarantee the accuracy of this information. If any 3M products described in this literature are defective in material or workmanship, 3M will replace them at no charge. THERE ARE NO OTHER WARRANTIES FOR THESE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty does not apply to damage or defects resulting from improper use, storage or maintenance of these products. User must determine whether the 3M products described in this literature are fit for a particular purpose, suitable for user's application and meet user's performance expectations. 3M IS NOT LIABLE FOR ANY LOSS OR DAMAGES, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL, ARISING OUT OF THE USE OF OR INABILITY TO USE ANY OF THESE PRODUCTS REGARDLESS OF LEGAL THEORY.

3M
**Filtration Products**
3M Center, Building 60-1S-16
St. Paul, MN 55144-1000
800-648-3550

© 3M 2003 70-0708-1755-9

Downloaded from www.Manualslib.com manuals search engine